

NOTES ON *Ivesia rhypara*.—*Ivesia rhypara* Ertter & Reveal, a candidate for federal endangered status, was first discovered in 1973 by Patricia L. Packard and several of her students from the College of Idaho (CIC). The species was found in Leslie Gulch in Malheur County, Oregon, where several other interesting endemics have been discovered by the same group of people. At the time of publication (Ertter and Reveal, *Madroño* 24:224–227, 1977), only one population scattered in an area less than one km² was known, and this was bisected by the access road to a boat-launching site on Owyhee Reservoir. Later a much smaller population was discovered in a side canyon.

During the summer of 1981 another very small population of *Ivesia rhypara* was discovered almost 200 km southeast of Leslie Gulch in Elko County, Nevada (ca. 1 km sw of Il Ranch, 25 Jun 1981, *Grimes, Parkard, and Ertter* 2127, NY, CIC, to be distributed). Plants of this population have leaves and pubescence like those of the Orgeone plants but differ slightly in their more compact cushion-form, narrower yellow-tinted petals, and occasional flowers with two ovaries and achenes rather than only one.

In several respects the Nevada plants approach the recently described *Ivesia paniculata* Nelson & Nelson (*Brittonia* 33:165–167, 1981). This species from Lassen County, California, differs from *I. rhypara* primarily in its 1–3 ovaries, more tightly imbricated leaflets, and sparser pubescence, which is densely canescent in *I. rhypara* but loose enough in *I. paniculata* to make the leaves appear greener and the stems redder. The inflorescence is also more open in *I. paniculata*. Nelson and Nelson further distinguished *I. paniculata* as having linear, yellow (vs. narrowly oblanceolate, white) petals and ascending to erect (vs. prostrate) stems. In the NY material the petals of *I. paniculata* have faded to white and are not markedly narrower than those of *I. rhypara*. In addition, although the stems of *I. rhypara* were described as prostrate, subsequent field observations have shown that at the beginning of the summer its flowering stems are also ascending to erect and only become prostrate as they lengthen. The known substrates of the two species differ somewhat; *I. paniculata* grows on loose volcanic ash, and *I. rhypara* on welded tuff in Oregon and unsorted riverbed deposits mixed with volcanic ash in Nevada (J. Grimes, pers. comm.).

When *Artemisia packardiae* Grimes & Ertter (*Brittonia* 31:454–458, 1979) was described as a derivative of the montane *A. michauxiana* Besser, it was also suggested that *Ivesia rhypara* was similarly derived from the montane *I. gordonii* (Hook.) T. & G., a comparison attributable to my inadequate knowledge of the genus. Superficially *I. gordonii* does indeed look more like *I. rhypara* than does *I. baileyi* S. Wats., and these are the only species of *Ivesia* that were known from the northern Intermountain region. However, the shallow hypanthium of *I. rhypara* is very different from the deeply turbinate one of *I. gordonii*, and I now believe that both *I. rhypara* and *I. paniculata* belong in a group of closely related species that includes *I. baileyi*, *I. shockleyi* S. Wats., and *I. jaegeri* Munz & Johnst. All are characterized by a shallow hypanthium, low growth habit, and preference for rocky substrates. The three last-named species are montane, whereas *I. rhypara* and *I. paniculata* grow at lower elevations in the northern Intermountain Desert. A logical hypothesis to explain the origin of these two species is that an ancestral stock, perhaps similar to *I. shockleyi*, which presently is known from the Sierra Nevada of California and some central Nevada mountain ranges, was widespread in the valleys of the northern Intermountain region during the pluvial periods of the Pleistocene. When this area became hotter and drier most of the descendants retreated to the mountains, but remnants persisted on certain edaphically restrictive sites where competition was less intense and water relations were more favorable. These remnants evolved into *I. rhypara* and *I. paniculata*. A similar hypothesis has been used to explain the evolution of other narrow endemics whose nearest relatives are montane (e.g., *Artemisia packardiae*).

The fairly recent discovery of both *Ivesia rhypara* and *I. paniculata* reflects the modern increase in the number and activities of botanists in the previously undercollected portions of the northern Intermountain region. It is highly probable that additional highly localized populations are waiting to be discovered on isolated edaphically interesting sites, especially in the sparsely roaded area dissected by steep-walled canyons

between the Oregon and Nevada populations of *I. rhypara*. If such additional populations are discovered they may very well reduce the apparent differences between the populations of *I. rhypara*, and between this species and *I. paniculata* as well. I therefore believe that even though the Nevada population of *I. rhypara* could conceivably be treated as a distinct taxon, such a move should be discouraged pending a search for intermediate populations.—BARBARA ERTTER, Department of Botany, University of Texas at Austin 78712. (Received 18 Nov 1982; accepted 27 Mar 1983.)

NOTEWORTHY COLLECTIONS

CALIFORNIA

OPUNTIA BIGELOVII Engelm. (CACTACEAE).—USA, CA, San Bernardino Co., s. end of Kelso Mts. (T11N R12E S18 nw. $\frac{1}{4}$ w. $\frac{1}{2}$), locally abundant within area of ca. 1 ha on moderately steep to gentle, southerly facing desert pavement slopes with developed varnish, 884 m, 2 Jun 1980, *Baldwin and Reseigh 255*. Extensive vegetative propagation evident.

Significance. First record for the California Mojave Desert outside of the Colorado River vicinity and a range of extension of 80 km wnw. from the Sacramento Mts., CA.

MENTZELIA PUBERULA Darl. (LOASACEAE).—USA, CA, San Bernardino Co., near summit of Old Dad Mt. (T12N R11E S30 nw. $\frac{1}{4}$ nw. $\frac{1}{4}$), frequent in calcareous bedrock crevices, 1280 m, 31 May 1980, *Baldwin and Martens 249*. Det. by H. J. Thompson.

Significance. A range extension of 100 km n. from Sheephole Pass, CA, the only other known occurrence outside of the Colorado River vicinity.

NEMACAULIS DENUDATA Nutt. var. *GRACILIS* Goodman & Benson. (POLYGONACEAE).—USA, CA, San Bernardino Co., ne. edge of Devils Playground (T13N R10E S34 n. $\frac{1}{2}$ n. $\frac{1}{2}$), frequent on gently sloping, partially stabilized sand dunes, 560 m, 26 Apr 1980, *Baldwin 65*.

Significance. First record for San Bernardino Co. and the Mojave Desert. A range extension of 100 km from Whitewater, CA. Highest elevational occurrence known.

PENSTEMON PSEUDOSPECTABILIS Jones (SCROPHULARIACEAE).—USA, CA, San Bernardino Co., mouth of steep canyon at w. base of Old Dad Mt. (T12N R10E S25 nw. $\frac{1}{4}$ nw. $\frac{1}{4}$), infrequent in sandy wash, 580 m, 6 May 1980, *Baldwin 169*.

Significance. The northernmost occurrence known in California and a range extension of 35 km n. from the Granite Mts., CA.—BRUCE G. BALDWIN and SCOTT N. MARTENS, Dept. of Botany, Univ. California, Davis 95616.

COLORADO

CRYPTANTHA MENSANA (Jones) Payson (BORAGINACEAE)—Garfield Co., se.-facing slopes, 17 km s. of Douglas Pass, Trail Canyon (T6S R102W S34, 39°30'N, 108°45'W), 1830 m, 8 Jun 1981, *Kelley 81-72* (Mesa College Herb., CS), 26 May 1982, *Kelley 82-33* (Mesa College Herb., CS).

Significance. This is the first record of the species in CO. Nearest known locality 16 km e. in Grand Co., UT.—WALT KELLEY, Dept. of Biology, Mesa College, Grand Junction, CO 81502.